This listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims:

1-8. (Cancelled).

9. (Currently Amended) In a cellular telecommunications network, a method for allocating a plurality of frequency hopping sequences comprising the steps of:

deriving network performance as a function of a current allocation of said plurality of frequency hopping sequences amongst a number of cells, and as a function of a network collision measure, wherein said network collision measure is a function of an expected, weighted mean network collision rate or an expected, weighted maximum network collision rate;

re-allocating one or more of said plurality of frequency hopping sequences until network performance is optimized; and

maintaining the allocation of frequency hopping sequences, amongst the cells, that resulted in optimized network performance.

10. (Cancelled).

11. (Currently Amended) The method of claim [[10]] 9, wherein the expected, weighted mean network collision rate is a function of an expected level of interference between cell pairs and an average expected collision rate between frequency hopping sequence pairs associated with each cell pair.

12. (Cancelled)

13. (Currently Amended) The method of claim [[12]] 9, where the expected, weighted maximum network collision rate is a function of an expected level of

interference between cell pairs and a maximum expected collision rate between the frequency hopping sequences.

14. (Cancelled)

15. (Previously Presented) The method of claim 9, wherein said step of re-allocating one or more of said plurality of frequency hopping sequences until network performance is optimized comprises the steps of:

re-allocating one or more of said plurality of frequency hopping sequences for one cell at a time.

16. (Original) The method of claim 9, wherein the maintaining of frequency hopping sequences, amongst the cells, that resulted in optimized network performance permits frequency hopping sequences to be assigned to connections in a corresponding cell in accordance with a predetermined frequency hopping sequence allocation method.

17. (Original) In a cellular telecommunications network, a method for allocating frequency hopping sequences to each of a number of cells, said method comprising the steps of:

determining an expected collision rate between each of a number of frequency hopping sequence pairs;

identifying a frequency offset allocation method;

allocating frequency hopping sequences for each cell;

determining network performance, based on the present allocation of frequency hopping sequences for each cell, and based on the expected collision rate between each of said number of frequency hopping sequence pairs;

re-allocating the frequency hopping sequences until it is determined that network performance is optimized; and

based on the allocation of frequency hopping sequences that represents optimized network performance, and based on the frequency offset allocation method, constructing one or more frequency hopping sequence allocation tables which identify a prioritized listing of allocated frequency hopping sequences for each cell.

18. (Original) The method of claim 17, wherein said step of determining the expected collision rate between each of a number of frequency hopping sequence pairs comprises the steps of:

comparing two frequency hopping sequences associated with a frequency hopping sequence pair; and

determining a number of occurrences where each of the two frequency hopping sequences associated with the frequency hopping sequence pair simultaneously overlap in both time and frequency domains.

19. (Original) The method of claim 18, further comprising the steps of:

adjusting a relative frame number shift between the frequency hopping sequences associated with the frequency hopping sequence pair; and

determining the relative frame number shift that results in a minimization of the expected collision rate between the frequency hopping sequences associated with the frequency hopping sequence pair.

20. (Original) The method of claim 17, wherein said step of allocating frequency hopping sequences for each cell comprises the step of:

randomly allocating the frequency hopping sequences.

21. (Original) The method of claim 17, wherein said step of allocating frequency hopping sequences for each cell comprises the step of:

allocating the frequency hopping sequences based on previously derived collision rates for each of said number of frequency hopping sequence pairs.

22. (Original) The method of claim 17, wherein said step of determining network performance, based on the present allocation of frequency hopping sequences for each cell, and based on the expected collision rate between each of said number of frequency hopping sequence pairs comprises the step of:

calculating an expected network collision rate.

23. (Original) The method of claim 22, wherein the expected network collision rate is an expected, weighted mean network collision rate.

24. (Original) The method of claim 23, wherein the step of determining network performance further comprises the step of:

calculating the expected, weighted mean network collision rate as a function of a weighting factor associated with each of a number of cell pairs and as a function of an average collision rate between the frequency hopping sequences presently allocated to the cells which make up each cell pair, and wherein said weighting factor is a function of a level of interference between the cells which make up each cell pair.

25. (Original) The method of claim 22, wherein the expected network collision rate is an expected, weighted maximum network collision rate.

26. (Original) The method of claim 25, wherein the step of determining network performance further comprises the step of:

calculating the expected, weighted maximum network collision rate as a function of a weighting factor associated with each of a number of cell pairs and as a function of a maximum collision rate between the frequency hopping sequences presently allocated to the cells which make up each cell pair, and wherein said weighting factor is a function of a level of interference between the cells which make up each cell pair.

27. (Original) The method of claim 17, wherein said step of re-allocating the frequency hopping sequences until it is determined that network performance is optimized comprises the step of:

iteratively re-allocating the frequency hopping sequences one cell at a time.

28. (Original) The method of claim 17, wherein said frequency offset allocation method comprises the steps of:

in a corresponding cell, assigning an available frequency offset having a highest priority level to a new call at call set-up.

29. (Original) The method of claim 17, wherein said frequency offset allocation method comprises the step of:

in a corresponding cell, reserving a frequency offset having a highest priority level for an existing call that experiences low signal quality; and

assigning an available frequency offset having a next highest priority level to a new call at call set-up.

30. (Original) The method of claim 17, wherein said frequency offset allocation method comprises the step of:

in a corresponding cell, assigning an available frequency offset to a call based on an allocated priority level and information relating to frequency hopping sequence utilization in at least one other cell.